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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,073	09/17/2003	Edward J. Crawford	FIS920000188US2	5068
48144 7590 11/16/2007 MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			EXAMINER TRAN, BINH X	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 11/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/664,073	Applicant(s) CRAWFORD, EDWARD J.	
	Examiner Binh X. Tran	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 34-37 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-16 and 34-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/17/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to the amendment filed on 11-14-2005 and petition decision mailed 11-07-2007.

Priority

2. In the amendment to the specification filed on 11-14-2005, the applicants amend to state that "The present Application is a Continuation Application of US Patent Application No. 09/759,101, filed on January 12, 2001, now US Patent No. 6,653,240". The applicants revise the priority statement in the specification to refer to a continuation application rather than a divisional application is acceptable.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-8, 10-16, 34-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the examiner is unable to find the proper support for the new negative limitation "in a manner so that a conductive residue from said ion-milling process does not contaminate said organic dielectric".

Claims 2-8, 10-11, 16, 34-35 are rejected under 35 U.S.C. 112, first paragraph because they directly or indirectly depend on claim 1.

In claim 12, the examiner is unable to find the proper support in the specification for the new negative limitation "so that conductive material from said ion-milling process does not leave a conductive residue in said organic dielectric material as a result of said ion-milling process".

Claims 13, 36 are rejected under 35 U.S.C. 112, first paragraph because it depends on claim 12.

In claim 14, the examiner is unable to find the proper support in the specification for the new negative limitation "so that conductive residue will not remain in said organic dielectric from said ion-milling process".

Claims 15, 37 are rejected under 35 U.S.C. 112, first paragraph because it depends on claim 14.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 34 depends on claim 1. In claim 1, applicants disclose that the conductor material is removed by an ion-milling process (not an etching process). However, in dependent claim 34, the applicants disclose that "wherein said conductor comprises an underlying conductor that is exposed after having etched through at least a portion of at

least one upper conductor that covers said underlying conductor" (emphasis added). It is unclear from the claim whether the etch process in claim 34 and the ion-milling process in claim 1 are the same process or not. If these process are the same, the examiner suggests the applicants replacing the phrase "after having etched through" to --after having ion-milled through-- in order to provide proper antecedent basis.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-8, 10-16, 34-37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4-17 of U.S. Patent No. 6,653,240. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim in the US Patents 6,653,240 is narrower by further specifying a second conductor layer. The claim of the present

invention (10/664,073) is broader than the claim in US 6,653,240, which reads on an invention in US 6,653,240. The examiner also recognizes that the amended claims 1, 12 and 14 of the present invention is differ from the claims of US 6,653,240 by the new negative limitation as discussed above under 35 USC 112, 1st paragraph. However, as discussed above, the examiner is unable to find a proper support for these new limitation, therefore the examiner does not give these negative limitation any patentable weight during consideration of double patent rejection.

Further, it is noted that the new claim 34 requires that the conductors comprises "an underlying conductor" and "a portion of at least one upper conductor". The "upper conductor" is equivalent wit the "first conductor" in claim 1 US 6,653,240. The "underlying conductor" is equivalent with the "second conductor".

Response to Arguments

9. Respect to the obvious double patenting rejection, the applicants argue that "the present invention are indistinct from those of the parent application, since invention are indistinct from those of the parent application, since the independent claims herein do not require that the ion-milling operation be done on a second, underlying conductor to distinguish from the prior art of record". The examiner strongly disagrees with the previous statement. There is no limitation in the claims of the parent application (now US 6,653,240) requires that the ion-milling operation be done on a second underlying conductor as stated by applicants. On the contrary, the claims in US 6,653240 state that the ion milling process is performed on the first conductor (see claim 1 for example). As stated above, the examiner clearly recognizes that the claim 1 of present

invention is broader than the claims in US 6,653,240. However, the claim of the present invention still read on the claims of US 6,653,240.

Respect to obviousness-type double patenting rejection, the applicants further argue that "the claims herein further describe the meaning of the modification to be done by the ion-milling process, thereby clearly adding a distinguishing limitation from the invention define by the parent application. The examiner disagrees. In claim 1 of the present invention state " performing said ion-milling process on said conductor to at least one of remove conductive material from said conductor to open up an existing routing in said circuit and add conductive material to said conductor to form a new routing within said circuit". The term "at least one" means at least one of the condition is needed. Therefore, the examiner interprets that it is possible that claim 1 of the present invention requires perform the ion milling process to "remove conductive material from said conductor to open up an existing routing". However, it is noted that claim 1 of US 6,653,240 recites that the ion milling process is performed on the conductor to "etch an opening through said first conductor". Since the first conductor is etched (i.e. removed) to create an opening, the existing route in the first conductive must be removed.

Respect to obviousness-type double patent rejection, the applicants further argue that "Examiner considered the claims allowable in the parent in view of the procedure defined in Yang, which procedure is clearly different from the definition in the claims of the present Application, thereby clearly demonstrating distinctness of the present claims". The examiner disagrees. First, the examiner allowed the parent application because the cited prior arts fail to disclose at least one of the limitations in the parent

application (now US 6,653,240). The allowance of the parent application does not exclude the examiner from providing an obviousness-type double patenting rejection on the continuation application. The applicants are further reminded this application is a continuation (not a divisional) of application 09/759,101, now US Patent 6,653,240. The examiner knows of no rule to prevent the examiner from providing an obviousness-type double patent rejection in a continuation application with respect to the parent application, if the obviousness type double patent is proper.

Since, the applicants fails to timely file a proper terminal disclaimer, the examiner still maintains the previous obviousness-type double patenting rejection is proper base on these reasons as discussed above.

Respect to the previous 35 USC 103 rejection, the applicant's argument in page 12-13 is persuasive, thus the examiner withdraw the previous 35 USC 103(a) rejections. Specifically, the examiner agrees that Yang expressly teaches that there is no need to expose the conductor 60 in order to make electrical contact thereto.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571) 272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh Tran

Binh X. Tran